UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/627,206 | 07/27/2000 | Jane A. Gross | 98-75C2 | 1238 |

10117 7590 03/25/2010

ZYMOGENETICS, INC.
INTELLECTUAL PROPERTY DEPARTMENT
1201 EASTLAKE AVENUE EAST
SEATTLE, WA 98102-3702

| EXAMINER | |
|---|---|
| ZEMAN, ROBERT A | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1645 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 03/25/2010 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## ADVISORY ACTION

Applicant's response filed on 3-11-2010 is acknowledged. Claims 122, 124-125 and 127-129 have been amended. Claims 112-116 have been canceled. Claims 107-11 and 117-132 are pending and currently under examination.

### *Claim Rejections Maintained*

### 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The rejection of claims 107-111 and 117-132 under 35 U.S.C. 103(a) as being unpatentable over Bram et al. (WO 98/39361 – IDS-5) in view of Presta et al. (U.S. Patent 5,739,277) is maintained for reasons of record.

**Applicant argues:**

1. The skilled artisan would have to test each TACI fragment for the ability to bind ztnf4. Since Bram does not identify a TACI ligand which could be used to identify which, if any, of the TACI fragments retain the ability to bind ztnf4.

2. The Examiner's reliance on the KSR decision is misplaced given that "obvious to try" standard is not met since the art is unpredictable and the solutions are not small in number and/or easily traversed.

3. The prior art did not present a small and easily traversed number of options as set forth in *Ortho-McNeil Pharmaceutical v. Mylan Labs.*

4. The instant situation does not meet the factual situation set forth in *In re Kubin* for when "obvious to try" is valid.

5. There is no way to predict from Bram that the instantly claimed fragments would constitute ligand binding fragments.

6. The number of possible fragments is over 12,000 which are not easily traversed considering the ligand to TACI was unknown at the time of the invention.

7. Presta does nothing to remedy the failure of Bram.

8. The Examiner has used impermissible hindsight reconstruction to retrace the path of the inventors.

9. The biotechnological arts are inherently unpredictable. Bram fails to provide any guidance that could lead one of ordinary skill in the art to expect that the administration of the claimed fusions proteins would be effective in inhibiting B cell proliferation.

10. In the absence of any known TACI ligand, one of ordinary skill in the art would have no reliable screening method for determining whether a fusion protein containing a fragment of the TACI extracellular domain would retain the ability to bind ztnf4.

Applicant's arguments have been fully considered and deemed non-persuasive.

With regard to Point 1, one does not need to be able to determine whether a given fusion protein comprising a fragment of the TACI extracellular domain binds ztnf4. The functionality of the said fusion proteins can easily be determined via B cell activation.

With regard to Point 1, Applicant is reminded that the KSR decision is the controlling case law with regard to "obviousness". Moreover, given the non-analogousness of the fact patterns set forth in *In re Bell* and *In re Deuel* and those of the instant application, the said cases not deemed to be germane.

With regard to Point 2, the KSR decision set forth that "if a technique has been used to improve one device, and a person of skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill". Given that it is common practice within the art to determine the binding domains of a given ligand or receptor and that such a practice is within the capabilities of one of ordinary skill in the art, the requirements of obviousness under the KSR decision are met.

With regard to Point 3, Applicant is reminded that the *Ortho-McNeil* decision refers to a "…situation with a finite, and in the context of the art, a small *or* easily traversed, number of options…" Moreover, the fact pattern in *Ortho-McNeil* case is not analogous to the instant case. In the *Ortho-McNeil* case there was no teaching in the art that would guide the skilled artisan looking for an FBPase inhibitor to choose topiramate or to use 2, 3:4, 5 di-isoproplylidene fructose (DFP) as a starting material. In

contrast, the instantly applied art specifically disclose that the extracellular domain of TACI engendered by SEQ ID NO:6 regulate B-cell function (e.g. antibody production etc) as required by the instant claims.

Moreover, in context of the art, the number of possible deletion mutants encompassed by the instant claims is not only finite but easily traversed.

With regard to Point 4, contrary to Applicant's assertion, the situation set forth in *In re Kubin* is akin to the instant case given that by performing the routine method of determining the binding domains (fragment) of the extracellular domain of TACI would necessarily yield the claimed fragment.

With regard to Points 5, 6, 9 and 10, there is no requirement for the skilled artisan to predict which fragments would bind the TACI ligand. The statute merely requires that techniques for determining binding domains of a given ligand or receptor is part of the ordinary capabilities of a person of ordinary skill in the art and that such determinations are common practice within the art and that "application" of said practice is not beyond that artisan's skill. In the instant case the functional domains of the extracellular domain of TACI can be determined by determining B cell activation.

With regard to Point 7, the combination of the cited references renders the instant claims obvious.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning (Point 8), it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

As outlined previously, ztnf4 is a member of the tumor necrosis factor (TNF) superfamily. Ztnf4 stimulates proliferation of, and immunoglobulin production by, B cells. Moreover, Ztnf4 is a ligand for TACI and is also known in the art as BLyS, neutrokine α, BAFF, TALL-1 and THANK.

The instant claims are drawn to methods of inhibiting B cell proliferation by the administration of by the administration a composition comprising a fusion protein that consists of a first and second portion joined by a peptide bond wherein the first portion consist of the amino sequence of amino acid 25 to 104 of SEQ ID NO:6 or residues 1 to 154 of SEQ ID NO:6 and wherein the second portion is a heavy chain constant region of human immunoglobulins (e.g. IgG1) and wherein said fusion protein binds ztnf4. Additionally, said composition may comprise multiple polypeptide fusions.

Bram et al. disclose methods of using genetically engineered constructs to regulate B-cell activity through its interaction with cellular receptor ligands. Said constructs can consist of the extracellular domain of the TACI receptor fused to the Fc domain of an immunoglobulin (see page 24, lines 24-26). Moreover, Bram et al. disclose that the "subunits" of the construct (i.e. TACI and the Fc domain of the Ig) can be linked by peptide bonds (see page 20, line 1). Bram et al. further disclose that said extracellular domain has the amino acid sequence corresponding to about residue 1 to about residue 166 of the consensus sequence of TACI and that the ligand binding region is a sub-fragment of the extracellular domain (see page 18, lines 27-30). Said constructs (fusion proteins) intercept the normal endogenous ligands (i.e. ztnf4) that serve to cross-link and activate the TACI proteins on the surface of cells thus inhibiting the ligand's activity (see page 8, lines 1-6). Consequently, by utilizing the methods and materials disclosed by Bram et al., one would necessarily inhibit B cell proliferation, even though its

identity is not known since ztnf4 is an **endogenous ligand of TACI**. One does not need to know the identity of the TACI ligand in order to practice the method disclosed by Bram et al. hence Applicant's argument that the identification of the ztnf4 ligand would require undue experimentation is not germane. The instant claims only require that the TACI fusion protein be administered to an individual in order to inhibit B cell proliferation and that said composition binds BLyS. Bram et al. disclose the administration of the same the compositions for the expressed purpose of inhibiting B cell proliferation (which is a ztnf4 activity). Moreover, since the fusion proteins disclosed by Bram et al. are identical to those of the instant invention, said fusion proteins would possess all of the same properties as those of the instant invention (including the ability to bind the ztnf4 ligand). Finally, with regard to the limitation "proteins comprising one or more polypeptide fusions" recited in claims 110-111 and 120-121, Bram et al. anticipates this limitation since their disclosed fusion protein comprise one polypeptide fusion (i.e. the TACI-Fc fusion protein constitutes a single polypeptide fusion).

Bram et al. differs from the claimed invention in that they do not disclose the specific use of 1gG1 heavy chains in fusion proteins or TACI extracellular sub-fragments consisting of amino acid residues 25-104 or 1-154 of SEQ ID NO:6 in fusion proteins.

However, given that there Bram discloses the use of the full length TACI extracellular domain (SEQ ID NO:6) and that there are a finite number of fragments of said extracellular domain and it would have been obvious to the skilled artisan to produce said fragments in order to identify the specific binding domain (fragment) of the TACI extracellular domain responsible for the observed biological activity (i.e. modulating B cell proliferation/activity). The skilled artisan would have had a reasonable expectation of success as the generation of protein

fragments to identify biologically active domains [see *KSR International Co. v. Teleflex Inc.*, No. 04-1350 (U.S. Apr. 30, 2007)]

Presta et al. disclose methods of making fusion proteins comprising the Fc portion of an immunoglobulin (including IgG1)[see column 5, lines 48-55]. Presta et al. further disclose that the Fc portions of the various immunoglobulins have an increased circulatory half-life (see abstract and column 11, lines 63-65). Presta et al. teach that the Fc portions of the various immunoglobulins can be used interchangeably (see column 7, lines 3-45)

It would have been obvious for one of skill in the art at the time of the invention to modify the teachings of Bram et al. to include the teachings of Presta et al. because it is within the skill of the art to modify B cell activity (i.e. reduce B cell proliferation) by administering TACI receptor fusions comprising the Fc portion of an immunoglobulin, and because Presta et al. teach it is within the skill in the art to construct and use fusion proteins comprising the Fc portion of IgG1. One would have been motivated to do so in order to achieve the expected result of generating TACI/Fc fusions functional in the methods disclosed by Bram et al. that have the increased circulatory half-life as disclosed by Presta et al.

Based on the state of the art and the teachings of the cited art, and absent of any evidence to the contrary, there would have been a reasonable expectation of success in combining the disclosure of Bram et al. with that of Presta et al. to obtain TACI/IgG1 Fc fusion proteins that are functional in the methods taught by Bram et al.

The rejection of claims 107-111 and 117-132 under 35 U.S.C. 103(a) as being unpatentable over Bram et al. (U.S. Patent 5,969,102) is maintained for reasons of record.

**Applicant argues:**

1. The skilled artisan would have to test each TACI fragment for the ability to bind ztnf4. Since Bram does not identify a TACI ligand which could be used to identify which, if any, of the TACI fragments retain the ability to bind ztnf4.

2. The Examiner's reliance on the KSR decision is misplaced given that "obvious to try" standard is not met since the art is unpredictable and the solutions are not small in number and/or easily traversed.

3. The prior art did not present a small and easily traversed number of options as set forth in *Ortho-McNeil Pharmaceutical v. Mylan Labs.*

4. The instant situation does not meet the factual situation set forth in *In re Kubin* for when "obvious to try" is valid.

5. There is no way to predict from Bram that the instantly claimed fragments would constitute ligand binding fragments.

6. The number of possible fragments is over 12,000 which are not easily traversed considering the ligand to TACI was unknown at the time of the invention.

7. Presta does nothing to remedy the failure of Bram.

8. The Examiner has used impermissible hindsight reconstruction to retrace the path of the inventors.

9. The biotechnological arts are inherently unpredictable. Bram fails to provide any guidance that could lead one of ordinary skill in the art to expect that the administration of the claimed fusions proteins would be effective in inhibiting B cell proliferation.

10. In the absence of any known TACI ligand, one of ordinary skill in the art would have no reliable screening method for determining whether a fusion protein containing a fragment of the TACI extracellular domain would retain the ability to bind ztnf4.

Applicant's arguments have been fully considered and deemed non-persuasive.

With regard to Point 1, one does not need to be able to determine whether a given fusion protein comprising a fragment of the TACI extracellular domain binds ztnf4. The functionality of the said fusion proteins can easily be determined via B cell activation.

With regard to Point 1, Applicant is reminded that the KSR decision is the controlling case law with regard to "obviousness". Moreover, given the non-analogousness of the fact patterns set forth in *In re Bell* and *In re Deuel* and those of the instant application, the said cases not deemed to be germane.

With regard to Point 2, the KSR decision set forth that "if a technique has been used to improve one device, and a person of skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill". Given that it is common practice within the art to determine the binding domains of a given ligand or receptor and that such a practice is within the capabilities of one of ordinary skill in the art, the requirements of obviousness under the KSR decision are met.

With regard to Point 3, Applicant is reminded that the *Ortho-McNeil* decision refers to a "…situation with a finite, and in the context of the art, a small *or* easily traversed, number of options…" Moreover, the fact pattern in *Ortho-McNeil* case is not analogous to the instant case. In the *Ortho-McNeil* case there was no teaching in the art that would guide the skilled artisan looking for an FBPase inhibitor to choose topiramate or to use 2, 3:4, 5 di-isoproplylidene fructose (DFP) as a starting material. In contrast, the instantly applied art specifically disclose that the extracellular domain of TACI engendered by SEQ ID NO:6 regulate B-cell function (e.g. antibody production etc) as required by the instant claims.

Moreover, in context of the art, the number of possible deletion mutants encompassed by the instant claims is not only finite but easily traversed.

With regard to Point 4, contrary to Applicant's assertion, the situation set forth in *In re Kubin* is akin to the instant case given that by performing the routine method of determining the binding domains (fragment) of the extracellular domain of TACI would necessarily yield the claimed fragment.

With regard to Points 5, 6, 9 and 10, there is no requirement for the skilled artisan to predict which fragments would bind the TACI ligand. The statute merely requires that techniques for determining binding domains of a given ligand or receptor is part of the ordinary capabilities of a person of ordinary skill in the art and that such determinations are common practice within the art and that "application" of said practice is not beyond that artisan's skill. In the instant case the functional domains of the extracellular domain of TACI can be determined by determining B cell activation.

With regard to Point 7, the combination of the cited references renders the instant claims obvious.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning (Point 8), it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

As outlined previously, Ztnf4 is a member of the tumor necrosis factor (TNF) superfamily. Ztnf4 stimulates proliferation of, and immunoglobulin production by, B cells. Moreover, Ztnf4 is a ligand for TACI and is also known in the art as BLyS, neutrokine α, BAFF, TALL-1 and THANK.

Bram et al. disclose methods of using genetically engineered constructs to regulate B-cell activity through its interaction with cellular receptor ligands. Said constructs can consist of the extracellular domain of the TACI receptor fused to the Fc domain of an immunoglobulin (see column 17, lines 16-18). Moreover, Bram et al. disclose that the "subunits" of the construct (i.e. TACI and the Fc domain of the Ig) can be linked by peptide bonds (see column 13, line 64). Bram et al. further disclose that said extracellular domain has the amino acid sequence corresponding to about residue 1 to about residue 166 of the consensus sequence of TACI (SEQ ID NO:6) and that the ligand binding region is a sub-fragment of the extracellular domain (see column 13, lines 7-12). Said constructs (fusion proteins) intercept the normal endogenous ligands (i.e. ztnf4) that serve to cross-link and activate the TACI proteins on the surface of cells thus inhibiting the ligand's activity (see column 5, lines 45-53). Consequently, by utilizing the methods and materials disclosed by Bram et al., one would necessarily inhibit B cell proliferation, even though its identity is not known since ztnf4 is an **endogenous ligand of TACI**. One does not need to know the identity of the TACI ligand in order to practice the method disclosed by Bram et al. hence Applicant's argument that the identification of the ztnf4 ligand would require undue experimentation is not germane. The instant claims only require that the TACI fusion protein be administered to an individual in order to inhibit B cell proliferation and that said composition binds BLyS. Bram et al. disclose the administration of the same the compositions for the expressed purpose of inhibiting B cell proliferation (which is a ztnf4 activity). Moreover, since the fusion proteins disclosed by Bram et al. are

identical to those of the instant invention, said fusion proteins would possess all of the same properties as those of the instant invention (including the ability to bind the ztnf4 ligand). Finally, with regard to the limitation "proteins comprising one or more polypeptide fusions" recited in claims 110-111 and 120-121, Bram et al. anticipates this limitation since their disclosed fusion protein comprise one polypeptide fusion (i.e. the TACI-Fc fusion protein constitutes a single polypeptide fusion).

Bram et al. differs from the claimed invention in that they do not disclose the specific use of 1gG1 heavy chains in fusion proteins or TACI extracellular sub-fragments consisting of amino acid residues 25-104 or 1-154 of SEQ ID NO:6 in fusion proteins.

However, given that there Bram discloses the use of the full length TACI extracellular domain (SEQ ID NO:6) and that there are a finite number of fragments of said extracellular domain and it would have been obvious to the skilled artisan to produce said fragments in order to identify the specific binding domain (fragment) of the TACI extracellular domain responsible for the observed biological activity (i.e. modulating B cell proliferation/activity). The skilled artisan would have had a reasonable expectation of success as the generation of protein fragments to identify biologically active domains [see *KSR International Co. v. Teleflex Inc.*, No. 04-1350 (U.S. Apr. 30, 2007)]

Presta et al. disclose methods of making fusion proteins comprising the Fc portion of an immunoglobulin (including IgG1)[see column 5, lines 48-55]. Presta et al. further disclose that the Fc portions of the various immunoglobulins have an increased circulatory half-life (see abstract and column 11, lines 63-65). Presta et al. teach that the Fc portions of the various immunoglobulins can be used interchangeably (see column 7, lines 3-45)

It would have been obvious for one of skill in the art at the time of the invention to modify the teachings of Bram et al. to include the teachings of Presta et al. because it is within the skill of the art to modify B cell activity (i.e. reduce B cell proliferation) by administering TACI receptor fusions comprising the Fc portion of an immunoglobulin, and because Presta et al. teach it is within the skill in the art to construct and use fusion proteins comprising the Fc portion of IgG1. One would have been motivated to do so in order to achieve the expected result of generating TACI/Fc fusions functional in the methods disclosed by Bram et al. that have the increased circulatory half-life as disclosed by Presta et al.

Based on the state of the art and the teachings of the cited art, and absent of any evidence to the contrary, there would have been a reasonable expectation of success in combining the disclosure of Bram et al. with that of Presta et al. to obtain TACI/IgG1 Fc fusion proteins that are functional in the methods taught by Bram et al.

***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The provisional rejection of claims 107-109, 117-119 and 122-123 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 11/748,978 is maintained for reasons of record.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims sets are encompass the use of fusion proteins comprising fragments of the extracellular domain of TACI. It should be noted that while the instant claims are drawn to a method of inhibiting B cell proliferation and the copending claims are drawn to methods of treating rheumatoid arthritis, both methods produce the same results as the inhibition of BlyS activity necessarily results in the inhibition of B cell proliferation and consequently the treatment of rheumatoid arthritis. Moreover, instant claim 123 is specifically drawn to treating rheumatoid arthritis through the application of fusion proteins comprising the extracellular domain of TACI.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant has indicated he will address this rejection upon the indication of allowable claims.

The provisional rejection of claims 107-109 and 117-119 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 84-86 of copending Application No. 09/569,245 is maintained for reasons of record..

Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims sets are encompass the use of fusion proteins comprising specific fragments of the extracellular domain of TACI as engendered by SEQ ID NO:6. It should be noted that while the instant claims are drawn to a method of inhibiting B cell proliferation and the copending claims are drawn to methods of inhibiting a BLyS activity, both methods produce the same results as the inhibition of BlyS activity necessarily results in the inhibition of B cell proliferation.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant has indicated he will address this rejection upon the indication of allowable claims.

***Conclusion***

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT A. ZEMAN whose telephone number is (571)272-0866. The examiner can normally be reached on Monday- Thursday, 7am -5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Mondesi can be reached on (571) 272-0956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert A. Zeman/
Primary Examiner, Art Unit 1645
March 23, 2010